



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,715	11/24/2003	Morio Senba	216.012	5373

7590

02/23/2005

BOYLE, FREDRICKSON, NEWHOLM, STEIN & GRATZ, S.C.
250 Plaza, Suite 1030
250 East Wisconsin Avenue
Milwaukee, WI 53202

EXAMINER

KERSHTEYN, IGOR

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/720,715	Applicant(s) SENBA, MORIO	
	Examiner Igor Kershteyn	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/15/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The abstract of the disclosure is objected to because it recites the legal phraseology "said". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Art Unit: 3745

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Criqui (1,341,882).

In figure 1, Criqui teaches an impeller of a centrifugal fan having a casing (not numbered) and a multi-blade impeller 10 rotatably supported by a blade holding base 17 in said casing, wherein when said impeller 10 is rotated air is sucked from an air suction port 14,15 formed on one side wall of said casing, and a centrifugal force is applied on said air, so that air of high pressure is taken out through an outlet (not shown) formed on a portion of an outer peripheral surface of said casing, the improvement characterized in that an inner peripheral surface of the impeller 10 is formed of a conical surface having a large diameter at the air suction port 14,15 and a small diameter at the blade holding base 17.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Burman (1,892,930).

In figures 1 and 2, Burman teaches an impeller of a centrifugal fan having a casing 5,6 and a multi-blade impeller (not numbered) rotatably supported by a blade holding base 14 in said casing 5,6, wherein when said impeller is rotated air is sucked from an air suction port 11 formed on one side wall of said casing 5,6, and a centrifugal force is applied on said air, so that air of high pressure is taken out through an outlet 7

Art Unit: 3745

formed on a portion of an outer peripheral surface of said casing 5,6, the improvement characterized in that an inner peripheral surface of the impeller is formed of a conical surface having a large diameter at the air suction port 11 and a small diameter at the blade holding base 14.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Rollo (6,634,855).

In figures 1 and 7b, Rollo teaches an impeller of a centrifugal fan having a casing 22 and a multi-blade impeller 10 rotatably supported by a blade holding base 11 in said casing 22, wherein when said impeller 10 is rotated air is sucked from an air suction port 23 formed on one side wall of said casing 22, and a centrifugal force is applied on said air, so that air of high pressure is taken out through an outlet 24 formed on a portion of an outer peripheral surface of said casing 22, the improvement characterized in that an inner peripheral surface of the impeller 10 is formed of a conical surface having a large diameter at the air suction port 23 and a small diameter at the blade holding base 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Criqui (1,341,882) as applied to claim 1 above, and further in view of obvious design choice.

Criqui discloses an impeller of a centrifugal fan having a casing (not numbered) and a multi-blade impeller 10 rotatably supported by a blade holding base 17 in said casing, wherein when said impeller 10 is rotated air is sucked from an air suction port 14,15 formed on one side wall of said casing, and a centrifugal force is applied on said air, so that air of high pressure is taken out through an outlet (not shown) formed on a portion of an outer peripheral surface of said casing, the improvement characterized in that an inner peripheral surface of the impeller 10 is formed of a conical surface having a large diameter at the air suction port 14,15 and a small diameter at the blade holding base 17.

Criqui does not disclose expressly the small diameter at the blade holding base is in the range of 70 to 90% of the large diameter at the air suction port.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the impeller of Criui with the small diameter at the blade holding base is in the range of 70 to 90% of the large diameter at the air suction port because Applicant has not disclosed that having the small diameter at the blade holding base is in the range of 70 to 90% of the large diameter at the air suction port provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill

Art Unit: 3745

in the art, furthermore, would have expected Applicant's invention to perform equally well with the small diameter at the blade holding base is in the range of 70 to 90% of the large diameter at the air suction port for the purpose of reducing fluid velocity and noise.

Therefore, it would have been an obvious matter of design choice to modify the impeller of Criqui to obtain the invention as specified in claims 2 and 4.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of three patents.

Marlow (3,543,368) is cited to show an impeller having a conical inner peripheral surface.

Nagai et al. (4,647,271) is cited to show an impeller having a conical inner peripheral surface but fails to teach a casing.

Wark et al. (6,004,097) is cited to show an impeller having a conical inner peripheral surface.

Contact information

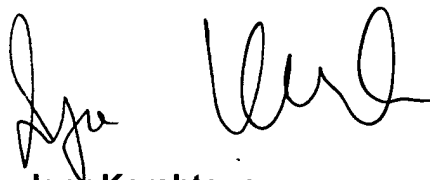
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

Art Unit: 3745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK
February 16, 2005

A handwritten signature in black ink, appearing to read 'Igor Kershteyn', is written over a printed name and title.

Igor Kershteyn
Patent examiner.
Art Unit 3745